



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/902,576

07/12/2001

Masaru Kogure

32405W084

3624

441 7590 03/04/2009

SMITH, GAMBRELL & RUSSELL
1130 CONNECTICUT AVENUE, N.W., SUITE 1130
WASHINGTON, DC 20036

EXAMINER

CZEKAJ, DAVID J

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

03/04/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/902,576	KOGURE ET AL.	
	Examiner	Art Unit	
	DAVID CZEKAJ	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-14 and 16-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-14, 16-23, 25-31 and 34-36 is/are rejected.
- 7) ☒ Claim(s) 24 and 32-33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

On pages 10-12, applicant argues that Kudoh in view of Bechtel fail to disclose determining a fail on the image taken by the camera based on a parameter obtained by normalizing the luminance distribution characteristic value by a shutter speed for the camera. While the applicant's points are understood, the examiner respectfully disagrees. See for example Kudoh column 4, lines 61-68. There Kudoh discloses determining a failure based on the luminance level of the image. Bechtel discloses in paragraph 0056, changing the integration time in order to center the image exposure. The examiner notes that the shutter of the camera and the exposure time are related (by changing the shutter speed of the camera changes the exposure time of the image). By changing the integration time, Bechtel is normalizing the luminance characteristic. Hence, the combination of Kudoh and Bechtel teach the limitations as claimed. Therefore the rejection has been maintained.

On page 14, applicant argues that it would not be obvious the modify Kudoh since Kudoh is directed towards a parking lot monitoring system. While the applicant's points are understood, the examiner respectfully disagrees. While Kudoh discloses the use of a camera system to monitor vehicles in a parking lot, the examiner notes that they system of Kudoh monitors vehicles based on luminance data. Under KSR, all the elements are known, could have been combined without any change of function, and would give predictable results. Thus, placing the camera system of Kudoh on a pole (or other position) in parking lot or placing the camera system on a vehicle would still

produce predictable results (the detection of other vehicles based on luminance data).

Therefore the rejection has been maintained.

On page 13, applicant requests references for the Official Notice taken with respect to claims 6-8. Note the updated rejection below.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-5, 9, 12, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudoh (5243663) in view of Bechtel et al. (2003/0103141), (hereinafter referred to as "Bechtel").

Regarding claim 3, Kudoh discloses an apparatus that relates to a vehicle detecting apparatus (Kudoh: column 1, lines 9-11). This apparatus comprises "a camera device for taking an image of a view in front" (Kudoh: figures 1-2), "a calculator for calculating luminance data on the image, wherein the luminance data provides a source for luminance distribution characteristic value indicating a horizontal distribution on the image" (Kudoh: figure 2, wherein the calculator is the road surface luminance detector), and "a determination section for determining whether there is a fail occurring on the monitoring system based on the luminance data" (Kudoh: column 4, lines 65-68, wherein the monitoring failure is the failure in revealing the characteristic of the vehicle). However, this

apparatus lacks the luminance values as claimed. Bechtel teaches that there is a need for a vehicle viewing system with extended range capable across wide brightness levels (Bechtel: paragraph 0009). To help alleviate this problem, Bechtel discloses "normalizing the luminance characteristic values by a shutter speed" (Bechtel: paragraphs 0053; 0056; wherein the shutter speed is the exposure time). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the apparatus disclosed by Kudoh and add the luminance calculations taught by Bechtel in order to obtain an apparatus that has an increased range over a variety of brightness levels.

Regarding claim 4, Bechtel discloses "the luminance characteristic values include the maximum value of luminance" (Bechtel: figure 5).

Regarding claim 5, Kudoh discloses "values that include a luminance variance on the image" (Kudoh: figures 4-6).

Regarding claim 9, note the examiners rejection for claim 1.

Regarding claim 12, note the examiners rejection for claim 1.

Regarding claim 34, Kudoh discloses "calculating the luminance data on the basis of luminance values of sample pixels in preset monitoring areas arranged in a horizontal direction" (Kudoh: column 4, lines 61-68, wherein the image is arranged in the vertical and horizontal direction).

3. Claims 6-8 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudoh (5243663) in view of Bechtel et al. (2003/0103141), (hereinafter referred to as "Bechtel") in further view of Glier et al. (6760061), (hereinafter referred to as "Glier").

Regarding claims 6-8, note the examiners rejection for claim 3, and in addition, claims 6-8 differ from claim 3 in that claims 6-8 further require the number of luminances edges. Glier teaches that prior art monitoring systems generally do not have a long lifespan and don't provide much information (Glier: column 1, lines 35-44). To help alleviate this problem, Glier discloses determining the number of luminance edges (Glier: column 4, line 64 – column 5, line 25, wherein the determining is the summing). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the processing taught by Glier in order to obtain an apparatus that provides as much information as possible to a user.

Regarding claim 35, note the examiners rejection for claim 3, and in addition Glier discloses "summing the luminance values" (Glier: column 4, line 64 – column 5, line 25).

Regarding claim 36, note the examiners rejection for claim 3, and in addition Kudoh discloses "calculating a variance of the luminance values" (Kudoh: column 4, lines 61-68).

4. Claims 10, 13-14, 19-22, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudoh (5243663) in view of Harada et al. (6636257), (hereinafter referred to as "Harada") in further view of Kogure et al. (09/902576), (hereinafter referred to as "Kogure").

Regarding claims 10 and 13, Kudoh discloses an apparatus that relates to a vehicle detecting apparatus (Kudoh: column 1, lines 9-11). This apparatus

comprises “a camera device for taking an image of a view in front” (Kudoh: figures 1-2), “a calculator for calculating luminance data on the image” (Kudoh: figure 2, wherein the calculator is the road surface luminance detector), and “a determination section for determining whether there is a fail occurring on the monitoring system based on the luminance data” (Kudoh: column 4, lines 65-68, wherein the monitoring failure is the failure in revealing the characteristic of the vehicle). However, this apparatus lacks the fail-safe measures and luminance center calculation as claimed. Harada teaches that prior art vehicle control systems need highly sophisticated processing algorithms (Harada: column 2, lines 20-35). To help alleviate this problem, Harada discloses “taking fail-safe measures if the fail is occurring” (Harada: column 8, line 64 – column 9, line 3, wherein the fail safe measure is preventing the steering wheel from being turned based on the detection of the luminance or brightness of another vehicle).

Kogure, in the specification on page 2 and illustrated in figure 3 teach calculating a luminance center corresponding to a horizontal position on the image at which luminance are converged, and determining the fail by evaluating the horizontal luminance distribution on the image based on the luminance center. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the apparatus disclosed by Kudoh, add the alteration devices taught by Harada, and add the calculations taught by Kogure in order to obtain an apparatus that operates more efficiently by reducing the complex operations needed to control a vehicle.

Regarding claim 14, note the examiners rejection for claims 4 and 10.

Regarding claims 19-22 and 31, Kudoh discloses “determining whether a fail-safe interruption criteria is present based on two of the following: that an upper luminance saturation factor is larger than a lower saturation factor” (Kudoh: column 3, lines 35-64).

Regarding claim 30, Kudoh in view of Harada disclose “an image recognition device which receives image data from the camera device” (Kudoh: figure 2, wherein the recognition device is the vehicle existence judging region), a state alteration device which alters a vehicle condition based on image data criteria” (Harada: column 8, line 64 – column 9, line 3, wherein the alteration is preventing the steering wheel from being turned based on the detection of the luminance or brightness of another vehicle), and “preventing the vehicle alteration device from activating an image recognition based vehicle control change” (Harada: column 8, line 64 – column 9, line 3, wherein the steering wheel is prevented from being turned based on the detection of the luminance or brightness of another vehicle).

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kudoh (5243663) in view of Harada et al. (6636257), (hereinafter referred to as “Harada”) in further view of Kogure et al. (09/902576), (hereinafter referred to as “Kogure”) in further view of Hibbard et al. (6013911), (hereinafter referred to as “Hibbard”).

Regarding claim 11, note the examiners rejection for claim 10, and in addition, claim 11 differs from claim 10 in that claim 11 further requires

calculating the luminance moment. Hibbard teaches “calculating a luminance moment indicating the horizontal luminance distribution based on the luminance center” allows for correct centering of the image on the screen (Hibbard: column 8, lines 11-24. The examiner notes that calculating a luminance center is a well known pixel manipulation technique). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the calculations taught by Hibbard in order to correctly display the image to the user.

6. Claims 16-18, 23, 25, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudoh (5243663) in view of Harada et al. (6636257), (hereinafter referred to as “Harada”) in further view of Kogure et al. (09/902576), (hereinafter referred to as “Kogure”) in further view of Shimoura et al. (6285393), (hereinafter referred to as “Shimoura”).

Regarding claims 16 -18, note the examiners rejection for claim 10, and in addition, claims 16-18 differ from claim 10 in that claims 16-18 further require precluding an activity, the activity being a vehicle slow down change and preventing the warning system from activating. Shimoura teaches that it is well known to prevent steering or braking (slow down change) if a vehicle abnormally approaches another vehicle (Shimoura: column 1, lines 25-30). The examiner notes that control would not be passed back to the user until an indication, or statement, indicating the area safe is received. The examiner further notes that once vehicle control is taken away from the user, the warning system will de-

activate until control is given back to the user. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the prevention of the slow down change in order to help prevent two vehicles from colliding together.

Regarding claim 23, note the examiners rejection for claim 22 and in addition Shimoura discloses “a number of the calculation of the distance data is smaller than a reference number” (Shimoura: figures 26A, 26B, and 27).

Regarding claim 25, Kudoh in view of Harada in view of Shimomura disclose “preventing the fail safe mode from activating if a vehicle is recognized ahead or a distance to a vehicle is detected” (Harada: column 8, line 64 – column 9, line 3; Shimomura: figure 1A).

Regarding claims 27-28, note the examiners rejections for claims 3, 10, and 16.

Regarding claim 29, note the rejections for claims 16 and 18. In addition, Shimoura discloses preventing a vehicle control change until conditions are acceptable (Shimoura: column 1, lines 25-30, wherein if the condition was acceptable, the control would not be taken away from the user).

7. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kudoh (5243663) in view of Harada et al. (6636257), (hereinafter referred to as “Harada”) in further view of Kogure et al. (09/902576), (hereinafter referred to as “Kogure”) in further view of Khattak (4899296).

Regarding claim 26, note the examiners rejection for claim 13, and in addition, claim 26 differs from claim 13 in that claim 26 further requires preventing the fail safe mode based on camera shutter speed. Khattak teaches that a correct shutter speed must be chosen that provides unblurred or geographically undisplaced pixel information (Khattak: column 7, lines 36-45). The examiner notes that the fail-safe mode would need to be prevented/activated based on the blurriness of the camera image. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the shutter speed control taught by Khattak in order to prevent a collision based on an unclear image.

Allowable Subject Matter

Claims 24 and 32-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 2621

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID CZEKAJ whose telephone number is (571)272-7327. The examiner can normally be reached on Mon-Thurs and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 09/902,576
Art Unit: 2621

Page 12

/Dave Czekaj/
Primary Examiner, Art Unit 2621